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ABSTRACT

When students choose postsecondary vocational education programs, they pay, in both money and in income lost during the time they are in the program. The public also pays by tax support for many educational programs. However, students often have little information about the effectiveness of these programs in terms of job placement, wage rates, and career potential. Some efforts to determine and disclose these outcomes have been made by Florida and Arizona. These states used Social Security numbers and state unemployment files to follow up on vocational education program completers. Although this method has some deficiencies, it is fairly simple and not too costly. Arizona attempted to do such a study and publish the results. However, missing information such as type of job obtained, not just employment obtained, undermined the results. Finally, political pressures contributed to the demise of the information disclosure program. It is recommended that future information disclosure efforts take into account the effect of the disclosures on school systems and students and the means of distribution before such a program is undertaken. (KC)

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INFORMATION DISCLOSURE IN POSTSECONDARY VOCATIONAL EDUCATION: POSSIBILITIES AND PRACTICES

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INTRODUCTION

Students are consumers of vocational education. When they choose a vocational program, they purchase skills, knowledge, a credential, and access to future employment opportunities. The purchase is made with two currencies: first, time away from work and other training programs and second, money. The public shares in the dollar cost through support of public schools and financial aid programs. This paper is prompted by a concern that students often make their choices with limited information about the quality of the vocational programs they enter and the employment prospects in the occupations they choose. It discusses how improving information about the expected outcomes of educational alternatives might improve the quality of the individual student's choice and the quality of postsecondary vocational education as a whole.

The basic argument is quite simple. Prospective students can choose whether or not to attend a postsecondary institution at all and, if they decide to do so, can choose the institution and the program. With complete understanding of the benefits that different institutions and programs have to offer—such as the likelihood of completing the program, the employment opportunities if they complete the program, and salaries they are likely to earn if they get a job related to their training—students will choose institutions with good expected outcomes. Institutions have an incentive to improve these outcomes if funding follows student enrollment, either through student tuition (often federally subsidized through loans and grants) or through funding based on enrollments. Efficient allocation of resources is therefore fostered by maximizing the amount of information on outcomes available to students.

Obviously, it is not possible to provide complete information, and even if it were, students' choices are constrained by many factors that would prevent them from always choosing the best program. Nevertheless, we believe that if more attention were paid to disclosure of relevant information, we could have a more efficient allocation of educational resources than now exists. Student choice, if properly informed, could be a powerful mechanism to induce institutions to be responsive to changing occupational opportunities and to demands for quality education.

In this paper we first review past use of information disclosure to consumers generally and to consumers of vocational education specifically. Next, we discuss the potential benefits and costs of greater information disclosure in vocational education and describe the conditions that must be met for information disclosure to promote more a efficient allocation of resources. We then examine Arizona's experience with information disclosure. Finally, we draw some conclusions about the usefulness of an information disclosure program such as Arizona's.

INFORMATION DISCLOSURE FOR CONSUMERS

Economists and policy makers have long recognized the potential benefits of information disclosure. The efficiency of any market depends on consumers having full information about the quality and expected performance of what they buy. Only when consumers know what they will get for their money can they encourage the production of the best products through their patronage. Yet, in many markets, consumers are poorly informed about the quality of products before they buy. To help consumers improve their choices, the government has passed many different information disclosure laws over the years.

Some information disclosure laws protect consumers from the dangers of being ill-informed. For example, there are laws that require certain non-prescription drugs to carry labels warning people with certain medical conditions not to use the medicine. Similarly, there are laws that require plastic bags to carry warnings against using them in infants' beds, and laws that require labeling of flammable materials to make sure consumers know that the materials can easily catch fire.

Other information disclosure laws help individual consumers make the choices that best meet their personal needs. For example, labels on food products identify ingredients and nutritional content to help consumers select foods suitable for their diets. Truth-in-lending laws require financial institutions to disclose effective interest rates, making it easier for borrowers to compare the costs of different loans. Sometimes consumer information is disclosed voluntarily. Responsible commercial advertising, for example, tells consumers something about the nature of products, and consumers can use this information to decide which purchases will fill their individual needs.

Studies show that some information disclosure laws have more impact than others on consumer behavior. In reviewing research on the impact of consumer information disclosure laws, Friedman and Sugarman discovered that some information disclosure laws have had little effect.[1] For example, the truth-in-lending laws requiring disclosure of effective interest rates by lending institutions appear to have had little impact on consumer borrowing habits, although consumers feel more confident in their decisions because of the information. The financial prospectus required by the 1934 Security and Exchange Act is rarely read because it does not contain the information consumers consider most important to their investment decisions.

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[1]Lee S. Friedman and Stephen D. Sugarman, *School Sorting and Disclosure: Disclosure to Families as a School Reform Strategy, Part One*, Berkeley, Graduate School of Public Policy, Working Paper #139, p. 56-62.

Other disclosure laws have had more impact on consumer behavior. Research shows that consumers are aware of unit pricing requirements and do use the information to guide their purchases. Friedman and Sugarman conclude that carelessly designed and implemented disclosure schemes can easily fall short of their goals. The important lesson is that the success of disclosure depends at least partly on the relevance, simplicity, and timing of information disclosed.

INFORMATION DISCLOSURE IN EDUCATION

Disclosure of information about education programs became a policy issue following the enactment of major financial aid programs. The GI Bill (Veterans Readjustment Act of 1944) placed, for the first time, significant financial power in the hands of millions of potential students. Abuses followed because the program created incentives for institutions to enroll as many students as possible, regardless of their chances for success. Investigations found cases of educational enterprises compiling phony figures on veterans' enrollments, engaging in fraudulent advertising and sales practices to attract students, and going out of business and moving across state lines to reopen.[2] These abuses led Congress to develop safeguards to protect educational allowances.

Federal financial aid programs introduced in the 1960s and 1970s—the largest of which was the Guaranteed Student Loan (GSL) program—also put large amounts of money in the hands of students who could fall victim to harmful recruiting and enrollment practices. High loan default rates among students who failed to complete programs led the federal government to restrict institutions' eligibility for loan programs and revise program regulations. The new regulations required institutions to maintain records on the admission, attendance, progress, placement, and indebtedness of loan recipients. They required institutions to establish a fair and equitable refund policy for tuition, room, and board and to distribute this policy to all students. They also required institutions to make available to all prospective students, before obligating them to pay any tuition or fees, accurate information concerning current academic or training programs, faculty, and facilities. The regulations for vocational programs specified that this information must include the percentage of recent graduates who obtained positions in the areas for which they were prepared and their average starting salaries. Finally, to keep institutions from admitting students indiscriminately, the regulations required institutions to show a

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[2]Joan S. Stark, "The Emerging Consumer Movement in Education," in *Promoting Consumer Protection for Students: New Directions for Higher Education*, San Francisco, Jossey Bass, 1976, p.1-8.

substantial and reasonable basis for concluding that each prospective student had the ability to benefit from the instruction or training offered.[3]

The Department of Education remains concerned about these education consumer issues, particularly in vocational-technical programs. The Department recently commissioned a study to investigate a number of issues related to high GSL default rates at vocational-technical schools: admission of unqualified students who are not adequately informed about the difficulty of the material they must master, students who drop out of the program or who do not get jobs they were trained for, misrepresentation of program completion and job placement rates during the recruiting process, and lack of fiscal integrity. The study found what Secretary Bennett termed "excessive evidence" that private, for-profit trade schools are exploiting and deceiving students.[4]

POTENTIAL BENEFITS AND COSTS OF MORE INFORMATION DISCLOSURE IN VOCATIONAL EDUCATION

Disclosure of information on outcomes could protect students from the kind of abuses discovered in the GI educational allowance and GSL programs. If students were provided with outcome information such as completion rates, job placement rates, and entering wage rates for different programs and institutions, they could avoid programs that offer them little for their investment of time and money. As indicated above, some private schools have been charged with false and misleading advertisement about the success of graduates. Independently collected information on outcomes could be used to disprove false advertisements.

In addition to protecting students from unscrupulous behavior on the part of institutions, more information on outcomes could help students make the best choices for themselves from available options. At the present time, students are forced to choose schools with limited objective information about the quality of programs and expected outcomes. Program evaluation results and other information collected by the state or individual institutions are rarely available to the public.

Students typically rely on high school counselors, friends, family, and program advertisements to help them choose among educational options and between education and work. Like consumers purchasing food for the family or choosing a loan, students could benefit from accurate information about their options. Objective information on outcomes would give students

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[3]Robert H. Davidson and Joan S. Stark, "The Federal Role," in *Promoting Consumer Protection for Students: New Directions for Higher Education*, San Francisco, Jossey Bass, 1976, p. 10.

[4] Brian Fitzgerald and Lisa Harmon, *Consumer Rights and Accountability in Postsecondary Vocational-Technical Education: An Exploratory Study*, Washington, D.C., Pelavin Associates, February 1988.

a more realistic picture of the likely benefits of attending different schools and entering different occupations. If students were able to assess whether the costs of an education were justified by future employment and earnings prospects, perhaps many would avoid incurring large debts they were unable to pay because they could not find adequate employment after completing school. More formal information disclosure policies would especially benefit disadvantaged students who are less likely to have access to accurate informal sources of information on program quality.

More information disclosure could improve the quality of vocational offerings as well as help students make wise personal decisions. Student choice plays an important role in determining what programs are offered and by which institutions. When students select the best programs, an enrollment-based funding system will direct vocational education funds to high quality programs and away from low quality ones. It will also direct additional public funds in the form of student financial aid.

Institutions as well as students could use information on outcomes. By comparing their outcomes with those of other institutions, they could identify immediately which programs needed improvement and not wait for students to "vote with their feet." The information on outcomes currently available to institutions is limited. Most institutions conduct their own evaluations and participate in peer reviews for accreditation purposes, but although this information provides feedback for planning and program improvement, it is expensive to collect, does not readily allow comparisons among institutions, and is not available on a regular basis.

Information disclosure does not come without costs, however. Against the potential benefits described above must be weighed the costs of collecting and disseminating information, which could be substantial. A statewide effort requires collection of information about thousands of graduates from possibly hundreds of vocational programs. Following the collection, the data must be interpreted and disseminated to those who can benefit from the information, including institutions, education agencies, and potential students.

Critics of information disclosure are quick to point out another potential cost of publishing completion, placement, and wage data. There is a danger that institutions attempting to perform well on such measures might increase admissions requirements so a higher proportion of students who enter could complete and find jobs. This kind of response to an information disclosure program could reduce services to disadvantaged and high risk groups.

NECESSARY CONDITIONS FOR EFFECTIVE INFORMATION DISCLOSURE

Information disclosure laws hold the promise of improving student choice and forcing institutions to become more performance-oriented. For this promise to be fulfilled, a number of conditions have to be met:

- institutions must generate relevant, reliable measures of performance that allow comparisons among programs and institutions;
- information on performance must be disseminated to potential students;
- students must take the information into account when making their choices;
- institutions must change their programs in response to the information.

The prospects for meeting these conditions are discussed in this section.

Performance Measures

Students can make wise choices of schools and programs based on performance measures only if those measure are relevant, easy to understand, reliable, and comparable among institutions. Program completion rates, placement rates, and expected wages appear to be the most available measures of vocational outcomes. While this information would easily meet the criteria of relevance, understandability, and comparability, there are both conceptual and practical problems in providing it to prospective students.

Placement Rates

Placement rates—defined as the percentage of completers who find jobs in occupations related to their training—have long been considered a relevant standard for evaluating the performance of vocational education. Many vocational educators, however, have several reasons for objecting to an emphasis on placement rates. First, they maintain that the emphasis on placement fails to distinguish vocational education from job training. Adopting placement as the primary criterion ignores the multiple goals of vocational education. In addition to imparting specific job skills, vocational education is also concerned with the acquisition of basic skills in reading, writing, and mathematics. It also seeks to deliver general vocational skills that will serve students in a variety of ways as their careers advance.

Second, vocational educators argue that the employment of vocational education students is determined by a large number of economic and personal factors beyond the control of the vocational education system. "Hold us accountable for *employability*, but not for *employment*" has been a frequent refrain.[5]

Third, many vocational educators express concern that a single-minded focus on placement encourages programs to admit only those students who are easiest to train and place. Important objectives—such as serving students with special needs and opening certain occupations to women, minorities, and the handicapped—are ignored by pure placement standards. In practice, most postsecondary vocational institutions have enough places for all interested students able to meet the minimum qualifications. Therefore, as a practical matter, most programs are not very selective. But certain programs—especially those with the greatest potential for job placement and highest potential wages—regularly have more applicants than they can accept, and there is a danger that these programs would ignore hard-to-serve students if the programs were held accountable strictly for placement.

In addition to these conceptual problems, good data on placement are expensive to obtain and often unreliable. The Vocational Education Data System mandated in the 1976 Amendments to the Vocational Education Act required states to follow-up students six months after they completed or left a program. These surveys have had notoriously low response rates and therefore have provided very limited and biased information about the success of programs.

Completion Rates

Focusing on completion rates rather than placement rates solves some of the problems encountered with placement rates. The completion rate—the percentage of students who have earned a degree or certificate in a recognized program—is a measure of employability, and vocational educators are more willing to be held accountable for employability than employment. In addition, completion data are much easier to obtain than placement data.

It is appropriate to reward institutions for high completion rates because students who complete programs are more likely to get good jobs in fields related to their training than are students who do not complete. It is important to keep in mind, however, a high completion rate does not necessarily mean that the program is good or that it should be offered at all. If the quality of instruction in a program is poor, students may not be employable even if they complete

[5] Gerry Hendrickson, *Evaluating Vocational Education: The Federal Stimulus*, Vocational Education Study Publication No. 5, Washington, D.C., National Institute of Education, March 1981, p.7.

the program. Furthermore, because employment opportunities depend on national and local economic conditions, the best training in the world will not guarantee employment after completion if there are no job openings. It can legitimately be argued that if the demand for labor in a particular field is weak institutions should not offer training in that area, no matter how exemplary the training or how high the completion rate. In sum, holding institutions accountable for completion does not force them to offer high quality programs or to be responsive to demand for labor in various occupations, whereas holding them accountable for placement does.

Wages

Information on expected wages for program completers would be extremely valuable to potential vocational students, particularly if it included data on long term income prospects for workers in particular occupations as well. The problems with expected wages as an outcome measure are practical rather than conceptual. Data on wages obviously must be collected after students have completed their programs and been employed. As indicated in the discussion on placement data, institutions have had little success in collecting information from students after they have graduated.

Unemployment Insurance Files as Information Sources

State-maintained unemployment insurance files are potentially useful sources of information on student outcomes. These files can be used to determine whether or not specific individuals have been employed during a particular quarter and, if they have, the number of weeks worked and their earnings for the quarter. Because employers must pay unemployment insurance taxes for all their employees and because information on individual-level employment and earnings are used to calculate benefits, unemployment insurance files are a highly reliable source of placement information. They can also be used to determine employees' quarterly earnings. At least three states—Arizona, Florida, and Kansas—have used their unemployment insurance files to track former vocational students.

Although reliable, unemployment insurance files have some limitations. Only completers who become employed in jobs covered by unemployment insurance can be tracked. Completers who are self-employed, join the military, take out-of-state jobs, or enroll in another educational institution are not included in unemployment insurance data bases. Placement rates calculated from these data bases alone will therefore understate the true placement rates, especially if postsecondary enrollment and military service are considered placements. Florida has overcome this problem to a large extent by searching for the social security numbers of former vocational

students in data bases maintained by the military, public four-year universities, and community colleges.[6] Although searching in more than one data base obviously adds to the cost of tracking former students, it can be done as long as social security numbers are used for identification.

A second problem with unemployment insurance files is that they do not contain information on employees' occupations. As a result, it is often difficult to tell if an individual is in a job related to his or her training. This limitation can also be overcome with some additional effort. Florida surveyed the employers of the former students found in the unemployment insurance files and asked them to identify the employees' occupations. The response was excellent—occupational information was obtained for 75 percent of the former students.

A third limitation of unemployment insurance files relates to the wage information. The true entry-level wage rates for different occupations cannot be obtained from unemployment insurance data. In most states, employer reports indicate the number of weeks in which the employee worked and the total wages paid, but not the actual hours worked. Because they do not indicate the total number of hours worked, the files cannot be used to determine wage rates.

As a source of information on placement and earnings, unemployment insurance files have a clear cost advantage over student follow-up surveys. Searching for the social security numbers of completers in computerized unemployment insurance records is much easier and less costly than conducting a survey of completers. All that institutions have to do is collect social security numbers from students and indicate the occupational codes of their programs. This approach also yields much more information than surveys usually do—response rates for follow-up surveys tend to be very low. Arizona has already used its unemployment insurance files to publish placement and earnings data for program completers in all public and private vocational programs. Kansas has compiled similar data, but only for occupational areas, not for individual institutions. Florida has gone the furthest in using other state-level data as well as unemployment insurance data to track students and has combined this information with information from surveys of employers. In Florida, the data is used by the Department of Education for planning and evaluation of vocational education and—at least yet—been not used to provide information to the potential students.

Using unemployment insurance data for the purposes described here does raise some privacy issues. There is a growing public concern about what information the government and other organizations maintain and how they use it. Although only aggregated information would

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[6]These efforts are described in *Occupational Identifier Project: Legislative Report*, Department of Education, State of Florida, April 29, 1988.

be published, the idea of using social security numbers to track individuals' employment may be objectionable to some. Sensitivity to this issue and assurances that data will not be published when there are only a small number of graduates should help alleviate such concerns.

Dissemination

Institutions with good records would want to make their successes known and could be relied upon to advertise their job placement and wage rates, but institutions that have not performed well would have no incentive to cooperate in disclosing information. Therefore, dissemination of information on educational outcomes should be a state-level responsibility.

Among those who should receive the information are the state legislature, the governor's office, state agencies with responsibility for education and economic development, postsecondary vocational institutions, high school counselors, high school students, and members of the public who request it. High school counselors can advise potential vocational students who are still in school, but other ways must be found to reach those who are not. Publication of results in newspapers and distribution of brochures in public places such as libraries are possible ways to reach wide audiences.

The form in which the information is presented is important. As Friedman and Sugarman pointed out, consumers are much more likely to respond to information that is simple as well as readily accessible.[7] Attractive brochures that are brief and to the point are important.

To be useful, the information must also be disseminated in a timely manner. Because there has to be a lag between program completion and collection of outcome data (to give completers time to find jobs and establish a salary history), data will necessarily be at least a year or a year-and-a-half old by the time it is published. Every effort must be made to ensure that the lag is not any longer than necessary because the value of the data declines rapidly over time. Three or four-year-old wage and job information would be of little interest to potential students.

Student Choice

Assuming students had access to comparative information on outcomes for different programs and institutions, would they use it to make their enrollment decisions? For example, would an individual considering a career in electronics study use the information to determine which electronics programs had the highest placement rates and wages and then enroll in one of

[7]Friedman and Sugarman, *Op. Cit.*, p. 56.

them? This question is difficult to answer, because attendance decisions are complex. Nevertheless, it is an important question, because the potential benefits of information disclosure cannot be realized if students do not actually use the information.

There is some evidence that high school seniors do in fact care about job placement records in choosing the colleges they attend, although it is not specific to vocational students. A 1982 survey of a national sample of graduating seniors asked about the importance of various factors in choosing the college they planned to attend, and one of the factors was the job placement record.[8] A total of 41 percent reported that the job placement record was somewhat important, and 48 percent said it was very important. Only 12 percent said it was not important. The sample included all students attending or planning to attend college, not just vocational students. It is reasonable to predict that vocational students would be even more interested in job placement.

Students also care about colleges' reputations in academic areas. The same survey found that 49 percent of the students rated academic reputation as very important in their decision and 44 percent ranked it as somewhat important. Interestingly, in a separate study, Manski found that students do not predictably choose the highest-quality school they can get into. They are most likely to choose schools with SAT averages about 100 points above their own.[9]

Despite apparent student interest in outcomes and overall quality, there are a number of factors that limit student choice. We cannot assume that students are automatically free to choose the best programs and schools. Location is an obvious limiting factor. Many vocational students have to live at home while enrolled, often for financial reasons. Even if they are armed with information that the local program is not one of the best, they may still have to choose it. Another limiting factor is student ability—if the best programs are full, not all students can choose them; some will have to choose inferior ones. Cultural factors may make it very difficult for students to select certain programs. Some programs are traditionally dominated by males or females and may not be chosen by the other sex even in the face of evidence that they prepare students for jobs with high wages. More than information alone is needed to steer these students in the direction of high quality programs. Still other limiting factors for students are the cost of the program and the availability of financial aid. Some students may have to choose the institution with the lowest costs or with the best financial aid offer.

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[8] *High School and Beyond 1980 Sophomore Cohort First Follow-Up (1982), Data File Users' Manual*, National Center for Education Statistics, p. 147.

[9] Charles F. Manski and David A. Wise, *College Choice in America*, Cambridge, Harvard University Press, 1983.

In sum, it would be rational for students to choose the institution with the best expected outcomes, and there is some evidence that students take into account expected outcomes in making their choices. However, many factors enter into student choice, and we have no real way to predict how much weight students would give to published information on outcomes.

Institutional Response

If information disclosure is to affect the quality of vocational education, institutions must improve their programs because of (a) the comparative information showing how they are doing relative to other institutions and (b) student demand, which presumably has been influenced by the information. In addition to improving the quality of the programs they have, they must eliminate programs for which demand is low, expand programs that are doing well, and possibly add new programs in fields that are doing well in other institutions.

Organizations tend to resist change, and it is easy to imagine that at least some institutions would ignore the information. Postsecondary vocational institutions can be unresponsive to changing technologies and changing demand for workers in different occupational areas. Opening and closing programs requires costly investments in new equipment and personnel, and existing faculty cannot easily be reassigned to teach different skills. Consequently, institutions often continue to offer outdated programs as long as students are willing to enroll. With more information disclosure on outcomes, institutions would have to be more responsive or risk losing their funding.

To this point, we have focused on the potential benefits of an information disclosure policy and examined the conditions that have to be met for an effective information disclosure system. In the rest of the paper, we describe Arizona's experience with information disclosure to highlight the practical considerations involved.

ARIZONA'S EXPERIENCE WITH INFORMATION DISCLOSURE

In 1985, Arizona implemented an innovative information disclosure program. The state collected from each postsecondary vocational institution the social security numbers and programs of all students completing programs during the 1982-83 school year. The social security numbers were checked against unemployment insurance data files to determine whether or not the completers were employed during the year beginning in the fall of 1983 and if so, what their wages had been during the year following their completion. The results were published and distributed to high school counselors and to vocational institutions.

Unfortunately, the information disclosure program only lasted one year. The law authorizing the data collection and publication remains on the books, but the legislature did not authorize any funding after the first year. A mix of technical and political problems were responsible for the program's demise, but valuable lessons were learned during the one year of operation. Many in the state considered the project a success and believe that it generated valuable information for students, educational institutions, and the state.

To gather information for this paper, we interviewed the major participants in the design and operation of the program, including a former aide to Governor Babbitt, the director of the Vocational Education Resources Coordinating Unit at Northern Arizona University (NAU), which was responsible for collecting the social security numbers and program identification codes and publishing the report, the director of Research and Administration in the Arizona Department of Economic Security, which maintains the state unemployment insurance data base, and the economic consultant on the project. Through these interviews we were able to find out how an information disclosure system worked and to determine some of the practical problems likely to be encountered in a program of this type.

Rationale for the Program

The idea of a report for students, parents, and schools originated in Governor Babbitt's office. The legislature was considering a larger vocational education initiative as part of a package of economic development legislation. As a condition of support for the package, the Governor insisted on articulation and accountability measures for the state's education systems. For postsecondary vocational education, the Governor specifically wanted performance measures.

By providing objective information about the percentage of students completing both public and private programs, the Governor hoped that students would make better choices among vocational options and have realistic expectations about the outcomes of completing different programs and attending different institutions. The Governor also hoped that the information would protect students. State leaders were very concerned that the placement and wage rates advertised by some private training institutes were suspiciously high, and they wanted an independent source of information that would discourage false advertising.

Initial Objections to the Information Disclosure Program

When the proposal to disclose outcome information based on unemployment data was introduced, opponents quickly appeared. The primary opponents were the community colleges,

which were concerned that the data would be insensitive to justifiable differences among programs, would be so inaccurate that potential students would be misled, would encourage creaming as an enrollment practice, and would have limited value to students and the state.

Differences Among Programs

Many people thought that comparing completion and placement rates of programs in the same occupation at different schools was inherently unfair. They argued that different schools have different resources, and that small schools with limited resources cannot provide the same diverse curriculum as larger schools. They argued further that publicizing placement data would highlight regional differences in employment prospects rather than differences in program quality. They also objected that a comparison between community college programs and private technical programs was unfair because the missions of the two types of institutions are different. Community college programs, because they include general education as one of their goals, focus less on job training and placement than do technical schools.

Proponents of the program were not dissuaded by these arguments and stood firmly behind their belief that some accountability data, even if not perfect, was better than none. They believed that students had a right to know about differences among institutions, regardless of why the differences existed. They responded to the charge that the missions and content of different programs were not comparable by asserting that statewide consistency in curriculum would not be a bad idea. The outcome information, they believed, could encourage schools with less successful programs to investigate and adopt some of the methods and curricula of successful programs. Schools in depressed areas, proponents argued, would improve if they either cut programs that did not serve local needs or increased their efforts to find job placements outside the local area.

Data Accuracy

Opponents of the program argued that using the unemployment insurance data base would produce inaccurate results and therefore provide misleading information to potential students, who might then avoid perfectly good programs whose low placement rates were caused by factors other than low quality. This argument was based on the recognized limitations of the unemployment insurance data—particularly that self-employed graduates and completers who continued their educations, left the state, or entered the military would appear unemployed.

To deal with this problem, the state investigated matching vocational school completion records with military enlistments and the rosters of the state four-year colleges so that students enrolling in further education or joining the military would not be counted among the unemployed. Although the program did not use these additional data sources in the first year, the state planned to incorporate them later. To further improve accuracy, Arizona hoped to add searches of unemployment insurance data bases in neighboring states such as Colorado and California if those states developed similar programs.

"Creaming"

Most institutions, public and private alike, complained that their placement rates were relatively low because their schools served difficult populations. The emphasis on placement and wages, they argued, would encourage "creaming"—the recruitment of students most likely to succeed and failure to serve the low-skilled and disadvantaged most in need of services.

The Governor's Office acknowledged this possibility, but countered that because no funding depended on performance and no sanctions were being proposed for low placement rates, schools would not be pressured to "cream."[10] In addition, every school claimed to serve the most difficult students. Consequently, the state reasoned, no school would be at a disadvantage because of its clientele.

Usefulness of the Data

Finally, colleges questioned the usefulness of the data. First, they argued, the unemployment insurance information replicated outcome data already available to the state and institutions from the national VEDS system (now discontinued). In fact, it did not—the VEDS data were virtually useless because they were so incomplete. A major advantage of the unemployment insurance data was that it was much more complete.

Second, they argued that the data would not help students because student mobility was limited by the community college fee structure—fees are lower for students attending the college in their region. However, the State argued that the fee system allowed students to attend any college in the state for the same low fee if the local program did not meet their needs. The state

[10]Institutions would, however, be subject to pressure from enrollment changes if students responded to the low placement rates and avoided such programs. With enrollments down, institutions would be hurt financially. It would be possible to avoid this problem by calculating placement rates separately for certain groups such as physically or learning disabled.

was confident that this rule would permit students to choose colleges based on the data presented in the outcomes report.

Support for Information Disclosure

Although the general reaction of the community colleges was negative, some colleges, especially private institutions, welcomed the state's effort to collect student outcome data. Most institutions were interested in the success of their graduates but had not been able to track them well through follow-up surveys, which are very expensive and usually have disappointingly low response rates.

The legislature was easily sold on the information disclosure project as a good way to generate performance measures and introduce accountability. It also addressed one of the legislature's greatest concerns in education—that students be informed of the earnings potential of an occupation before going into debt with student loans. The supporters prevailed primarily because the main opponents, the community colleges, were undergoing a restructuring of their state aid and did not want to jeopardize their budget, being considered by the legislature at the time. Representatives of the community colleges testified against the project, but, in the words of one observer, testified very carefully, guaranteeing cooperation with any program that would help students.

Other than the community colleges, the initiative had no organized opposition. With the support of the governor and sponsorship of the majority whip, the legislation passed.

Implementation

The Department of Economic Security (DES), which maintains the unemployment insurance data base, in some ways would have been the natural choice for the task of collecting and analyzing the data. The design team realized early on, however, that imposing this new, major responsibility on the department would meet strong opposition because of the extra work involved. The state therefore contracted with Northern Arizona University to collect and tabulate the data from the institutions. DES had only to run the tape containing social security numbers and program codes against the employment data, a minimal burden.

Although the system was operational for only one year, Arizona's experience illustrates many of the measurement and interpretation issues that other states adopting a similar program could expect to encounter. The most important technical issues were choosing appropriate

outcome measures and dealing with data limitations. Other problems included releasing timely data, protecting individual privacy, and securing school cooperation. These issues and problems were approached cooperatively by a project advisory committee composed of representatives from community colleges, private institutions, the Department of Education, and the Department of Economic Security. The committee was assisted by state staff and an economist.

Outcome Measures

The published data included three outcome measures: completion rates, placement rates, and wages. How institutions were to define completers was not clear, because there were no statewide guidelines for what constituted a program in any occupation. Nor was the state involved in certifying program completion. The advisory committee therefore allowed each institution to decide what constituted a program and successful completion. Some schools adopted narrow definitions of completion and had fewer completers; others chose to adopt more liberal definitions and had more completers. Placement rates were calculated by dividing the number of completers found in the unemployment insurance data base by the number of completers. Quarterly average wages were computed for completers based on one, two, three, or four quarters worth of data, depending on how many quarters they were employed.

Data Limitations

While the unemployment insurance data base is a valuable source of information on employment outcomes that can be accessed at very low cost, it does have serious limitations, some of which were described earlier. The limitations discussed here are the ones regarded as the most serious in Arizona.

A major drawback was that it was not possible to determine whether or not students entered employment in the fields for which they were trained, only whether or not they were employed. In Arizona, the unemployment insurance files contain only an industry code for businesses, not occupational codes for individuals. The state could determine that a completer was working for a trucking company, for example, but not whether the student was a truck driver, mechanic, or janitor for that company. Because of this data limitation, Arizona decided to count any job as a placement. An alternative—considered but rejected—would have been to try to identify which occupations went with each industry.

A second major area of concern was that the unemployment insurance data offered definite outcome information only about vocational graduates who found employment in the state. There

are many activities that educators consider positive outcomes of vocational education that were not reflected in the Arizona data, including entering the military, becoming self-employed, continuing on to a four-year institution, or securing employment outside the state. Completers in these categories could not be distinguished from the unemployed. Consequently, placement rates may have appeared deceptively low in certain program areas. For example, many cosmetologists are technically self-employed. They rent spaces from salons but are not employees of the salon owners. Graduates of certain technical programs may be more likely to enter the military than are other students, introducing a downward bias in the job placement rates of those programs.

Arizona's unemployment insurance files record only total wages earned in a quarter, not hourly wages. As a result, the average wages reported for an occupation mixed wages earned by both part-time and full-time workers. The average also combined the wages of those who worked the full quarter and those who worked only part of the quarter. The wage data did not, therefore, accurately describe potential earnings in an occupation, especially when the reported averages were based on a small number of cases.

Many programs had very small numbers of completers each year. In order to protect the identity of individuals and to avoid reporting misleading results because of a small number of cases, Arizona decided not to publish information about programs with fewer than 25 completers. Because most programs in the state turned out to have fewer than 25 graduates, the limit was later changed to 10. Even this standard resulted in the omission of many programs from the published report.

Privacy

Protecting individual privacy was another major concern, as it would be for any program proposing to use social security numbers to locate people in confidential records. DES objected to releasing employment data in any form that allowed identification of individuals by outside agencies. To overcome this problem, DES conducted the computer match of social security numbers with employment information and released only aggregate data.

Timeliness

The timeliness of the data was another source of concern. Arizona did not publish its outcome report until approximately two years after the end of the school year. Although many would have liked more immediate feedback, the delay was unavoidable. The delay was not caused by unemployment insurance data, which are available shortly after the end of each

quarter, but by the requirement in the law that the report show placement and wages for the first full year after graduation. The law recognized that students could take at least a year to find a job.

Cooperation

The law required all public and private schools to submit, for all of their graduates, the social security numbers and the names of the occupations for which they were trained. It provided no sanctions for schools that failed to comply. The project's success depended on the schools' cooperation, but fears that institutions would refuse to provide data proved to be unfounded. All of the community colleges and most of the private technical schools provided the required information.

Dissemination

After collecting and tabulating the completion, placement, and wage data on vocational students, NAU produced a final report. The whole project had cost NAU so much more than originally anticipated that funds available for disseminating the results were severely limited. In the end, the report was distributed to state agencies, vocational institutions, and high school counselors, but not to the public.

Although dissemination was not targeted directly at potential students, they did have access to the findings through their high school counselors and NAU assumed that the outcome information would be publicized by schools anxious to advertise their own placement and average earnings data. However, the published report was not presented in the best format for students and parents. It was published as a rather official-looking document on standard report paper. If more funding had been available, the university would have printed a simpler version of the findings in brochures for distribution to high school students and their parents.

Arizona has no information about how many students saw the report or the extent to which potential vocational students used the information to inform their choices. A few students contacted NAU directly to get the report, and presumably high school counselors made it available to other students. Since the Arizona program lasted only one year, neither NAU nor the governor's office could analyze the effect the information had on student choice. Project staff estimated that it could take three to four years for vocational training outcome data to become integrated into high school advising, student choice, and institutional planning.

Institutional Response

Although NAU was not able to evaluate systematically the response of vocational institutions to the report, it was able to collect some anecdotal evidence of changes stimulated by the information disclosure requirement. A few examples can serve to illustrate some of the responses that occurred.

The reporting requirements forced institutions to look carefully at how their programs were defined and what was required for completion. One college, for example, restructured a two-year occupational program into two programs—a one-year program and and two-year program—in response to low completion rates in the two-year program. The two-year program, which is often taught in one year at private schools, lost many students after one year because they had acquired enough skills to enter the labor market. The program was reorganized so students could enroll in either a one-year program or a two-year program. With this restructuring, the college could count those getting jobs after only one year as successful completers. Because funding was based on enrollment, the college had a financial incentive to keep students for two years. The publishing of the placement information motivated the college to meet the needs of students who wanted to enter the labor force sooner, saving these students a year's tuition and time.

Another reaction to the law was an increased focus on placement at the public institutions. Colleges had placement services, but many were insufficient. The new focus on placement gave colleges the incentive to improve or expand placement services and many colleges responded by increasing resources allocated to placement activities and by working harder to place students.

The new legislation also motivated some instructors to increase their contacts with industry. Knowing their programs' performance would be evaluated on job placements, instructors moved to contact employers and update their curriculum in order to improve the job-relevance of their courses and identify potential job opportunities for their students.

The data provided useful information that the state could have used to assess the funding of vocational programs. For example, the report revealed a number of programs with very high enrollments in some courses but small numbers of completers. Investigation showed that a number of these programs included courses that were counted as vocational for funding purposes, but that were in fact large lecture courses in vocational education departments, taken as electives by many non-vocational students. Since vocational courses receive 40 percent in additional funding per full-time equivalent student because equipment costs and smaller class sizes make vocational education more expensive, the state could see that schools were increasing their funding by defining low-cost lecture courses as vocational courses.

Information Disclosure Costs

The legislation appropriated $20,000 for NAU to collect and publish the outcome data. When they started, NAU researchers considered this ample funding for the project. During the first year, however, unanticipated expenses raised the total cost to approximately $50,000 and forced the university to use its own general funds to complete the project. The costs incurred by the Department of Economic Security—mainly for computer time—were minimal (only about $2,000 to $3,000), because the computer program to match completion information to the unemployment insurance data files could be tacked onto other programs and run at very little additional expense.

Over time, the total cost of the information disclosure program in Arizona would have declined. First-year fixed costs for planning the project and developing computer programs were high and would not recur. However, additional funding would have been necessary to match the school completion files to postsecondary education files and military records. Also, to communicate the findings to parents and potential students effectively, it would have been necessary to write and distribute a brochure aimed at this audience.

The Program's Demise

After the first vocational education report, Governor Babbitt left office and was replaced by Governor Mecham. Reportedly, relations between the new governor and NAU were strained, at best. The new Governor cut the state education budget significantly, including the NAU budget. In the budget negotiations with the university, the governor reportedly refused to directly fund the information disclosure project. In a move to force the university to use funds effectively, the governor told NAU to fund the project directly out of its own general funds if it was a priority. The vocational education unit at NAU, which had invested a significant amount of its own money in the project the previous year, decided it could not afford to continue the research without direct funds. Although the law remains on the books, the project fell dormant without NAU's participation.

Adding to the project's political problems, information disclosure never had an organized constituency. The main beneficiaries of the program were potential vocational students and their parents. Many of these people were unaware of the legislation, and the group had no organized representative in state government.

Although the lack of funding directly caused the demise of Arizona program, public and legislative awareness of technical difficulties were contributing factors. Opponents of the

program made sure that these difficulties were well covered in the press. The technical problems that caused the most concern were the large number of programs with fewer than ten completers for which no information was published and the fact that the program could not match employment occupations to the field of training. In the words of one observer, "the technical problems did not kill the project, but they sure didn't help."

CONCLUSIONS

Our consideration of the potential benefits of information disclosure and our review of Arizona's experience suggest that improving information about the expected outcomes of educational alternatives is feasible and that improved information has a good chance of improving student choice and the quality of postsecondary vocational education. More definitive conclusions about the impact of information disclosure must await evaluation of a program that has been in effect for several years.

Because Arizona's information disclosure project was so short-lived, it was not possible to evaluate the impact on student choice. Arizona's experience did show, however, that when an information disclosure project begins, it creates a new forum for schools and educational agencies to consider the quality of postsecondary vocational education. An information disclosure project gives states a reason to address issues such as the consistency of occupational programs across the state. The publication of placement and wage data encourages schools to consider important issues, including the need for stop-out certificates, the responsiveness of programs to local employment opportunities, the relevance of curriculum to skills demanded by local industry, and the effectiveness of student placement services.

Arizona's use of unemployment insurance data as a source of outcome information can serve as a model for other states. These data can provide accurate information on placement and wages at relatively low cost. States must be aware of the limitations inherent in these files, however. Of particular concern are the absence of occupation codes for individual's jobs, the lack of information on wage rates, and missing data on students not employed in jobs covered by the state's unemployment insurance program. If the limits are well understood in advance, states can avoid frustrated expectations. Florida has demonstrated that it is possible to compensate for at least some of the limitations by searching other data bases and by surveying employers to obtain information on occupations. States might also consider requiring employers to include occupations and wage rates for newly hired employees in their unemployment insurance reports.

The limitations of unemployment insurance data suggest that institutions and state agencies should not rely entirely on this data for information on outcomes. It cannot replace in-depth information about program quality that is gathered from site visits, self-reviews, the accreditation process, and other sources of information available to states and schools. Unemployment insurance information cannot replace students surveys, because only students themselves can report whether they use the skills they learned in school in their jobs, whether they are voluntarily unemployed or working part time, and whether they are satisfied with the training they received in vocational programs. What unemployment data offers that these other data do not is a low-cost means of gathering information on all former students, statewide, including those the schools cannot contact because no current address is available and those who would not respond to a questionnaire.

There are many ways to use unemployment insurance data in conjunction with other sources of data. With a little creativity—as has been exhibited in Florida—states can greatly enhance the quantity and quality of outcome information. Arizona explored (although did not pursue) several strategies for tracking the outcomes of students by using other data bases such as military enlistments, four-year institution student data bases, and unemployment insurance data bases in other states. States could also use the unemployment insurance data base to locate former students so they can be contacted for surveys.

Unemployment insurance data bases are also potentially useful for investigating long-term outcomes of vocational education. For example, the earnings of vocational completers could be tracked indefinitely—at least as long as they remain in the state. Research could also be conducted on job mobility and employment security based on the number of times that persons in each occupational area change jobs. Researchers could even determine whether students worked before entering programs and how their wages compared before and after training. For students not entering postsecondary vocational programs immediately after high school, wages sometimes fall after graduation when they enter new fields. Unemployment insurance data would allows us to see how long it takes wages to rise to the before-school rate, and how long it takes trainees to recoup their tuition costs.

Although the potential of these data is exciting, an important lesson to learn from Arizona's experience is to expect resistance to the publication of outcome-related information. The implementation process must be carefully thought out. In Arizona, the advisory committee contributed to the high level of cooperation NAU experienced with the schools. Involving public schools, private schools, labor, education, legislative committees, and executive staff is

important to ensuring a sound methodology, cooperation in the field, and acceptance of the information when it is released.

Another technique for political survival—one not used in Arizona—is a sound plan for evaluating the effects of an information disclosure project. To get continued support for an information disclosure project, states should plan to document the results. Evaluation should monitor the reaction of students, schools, and organizations. It should assess the effectiveness of dissemination, discovering how many high school students see the outcome report and whether or not the students use the information. The evaluation should assess the reactions of schools to see if the schools view the information as a benefit or an imposition, if school administrators plan changes in order to improve their performance on the measures, if instructors are aware of the reports, and if placement services change to address student employment needs. This information could help states secure continued support for information disclosure projects and provide solid evidence for other states considering information disclosure programs.